## We claim:

- 1. A storage management system comprising a volume provider to map a logical storage volume onto one or more storage devices of a storage subsystem, wherein the volume provider presents an application programming interface (API) for receiving storage access information that characterizes behavioral attributes of the storage volume.
  - 2. The storage management system of claim 1 wherein the attributes includes data availability desires including a desired level of fault\_tolerance.
- The storage management system of claim 1 wherein the attributes include intended input/output patterns for accessing the storage volume.
  - 4. The storage management system of claim 3 wherein the access patterns indicate whether the volume is primarily intended for sequential reads and sequential writes.
  - 5. The storage management system of claim 1 wherein the attributes include optimization preferences.
- 6. The storage management system of claim 1 wherein the volume provider configures
  the storage volume as a function of the storage access information.

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- 7. The storage management system of claim 1 and further including a software application executing on a computer within the storage subsystem, wherein the software application issues the storage access information to the volume provider.
- The storage management system of claim 7 wherein the application is an administrative tool that issues the storage access information to the volume provider in response to input from an administrator.
  - 9. The storage management system of claim 3 wherein the volume provider monitors actual access patterns and reconfigures the volume in response to changes in the actual access patterns and the intended access patterns.
  - 10. The storage management system of claim 1, wherein the API conforms to a Component Object/Model (COM) interface.
  - 11. A method for managing one or more storage volumes of a storage subsystem comprising:

receiving via an application programming interface (API) storage access information that characterizes volume behavioral attributes of one or more storage volumes; and

configuring one or more storage volumes of a storage subsystem as a function of the storage access information.

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- 12. The method of claim 11 wherein receiving storage access information includes receiving data availability desires including a preferred level of fault tolerance.
- 5 13. The method of claim 11 wherein receiving storage access information includes receiving intended access patterns.
  - 14. The method of claim 13 wherein receiving the intended access patterns includes receiving whether a volume is primarily intended for sequential reads or sequential writes.
  - 15. The method of claim 11 wherein receiving storage access information includes receiving configuration parameters including a request size
- 15 16. The method of claim 11 wherein receiving storage access information includes receiving optimization parameters.
  - 17. The method of claim 16 and further including monitoring accesses of the configured storage volumes by the software application.
  - 18. The method of claim 16 and further including reconfiguring the storage volumes based on the monitored accesses and the received storage access information.

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- 19. The method of claim 11 wherein configuring includes resolving conflicts within the storage access information.
- The method of claim 11, wherein receiving the storage access information includes receiving the storage access information via the application programming interface (API) that conforms to a Component Object Model (COM) interface.
  - 21. A computer-readable medium having computer-executable instructions to cause a computer to perform a method of:

receiving via an application programming interface (API) storage access information that communicates volume behavioral attributes of one or more storage volumes; and

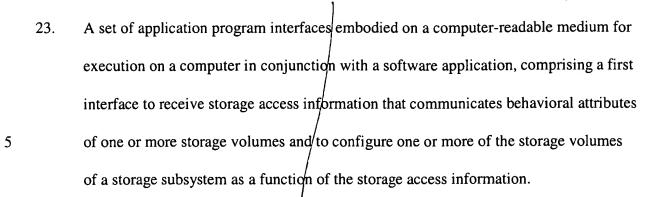
configuring one or more storage volumes of a storage subsystem as a function of the storage access information.

22. The computer-readable medium of claim 21 further including computer-executable instructions to cause the computer to further perform the method:

monitoring accesses of the configured storage volumes by the software application; and

reconfiguring the storage volumes based on the accesses and the received storage access information.

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- 24. The application programming interface of claim 23 further comprising a second interface to receive data availability desires including a preferred level of fault tolerance.
- 25. The application programming interface of claim 24 wherein the second interface receives parameters characterizing intended access patterns for the storage volumes.
- The application programming interface of claim 25 wherein the second interface receives parameters characterizing the intended access patterns as primarily intended for sequential reads or sequential writes.
  - 27. The application programming interface of claim 23 and further comprising a third interface to receive optimization parameters.
  - 28. The application programming interface of claim 23 wherein the application

programming interface (API) conforms to a Component Object Model (COM) interface.